1. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(-7 + 4i)(10 + 3i)$$

A. $a \in [-86, -81]$ and $b \in [19, 20]$

B. $a \in [-61, -57]$ and $b \in [-65, -58]$

C. $a \in [-86, -81]$ and $b \in [-19, -15]$

D. $a \in [-71, -69]$ and $b \in [11, 16]$

E. $a \in [-61, -57]$ and $b \in [56, 65]$

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2. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$\frac{-45 + 66i}{-3 - 8i}$$

A. $a \in [-6, -4.5]$ and $b \in [-7.9, -7.2]$

B. $a \in [-394, -390.5]$ and $b \in [-7.9, -7.2]$

C. $a \in [8, 9.5]$ and $b \in [2, 2.55]$

D. $a \in [13.5, 17]$ and $b \in [-8.6, -7.9]$

E. $a \in [-6, -4.5]$ and $b \in [-558.05, -557.25]$

---

3. Choose the **smallest** set of Real numbers that the number below belongs to.

$$-\sqrt{\frac{25921}{529}}$$

A. Whole

B. Not a Real number

C. Rational

D. Irrational

E. Integer

---

4. Simplify the expression below and choose the interval the simplification is contained within.

$$9 - 1 \div 8 * 2 - (4 * 6)$$

A. $[-15.72, -15.08]$

B. $[28.19, 28.67]$

C. $[32.92, 32.95]$

D. $[-15.17, -14.51]$

E. None of the above

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5. Choose the **smallest** set of Real numbers that the number below belongs to.

$$-\sqrt{\frac{50625}{625}}$$

A. Rational

B. Whole

C. Integer

D. Not a Real number

E. Irrational

---

6. Simplify the expression below and choose the interval the simplification is contained within.

$$17 - 13^2 + 9 \div 8 * 20 \div 15$$

A. $[-151.9, -148.6]$

B. $[-153.6, -151.4]$

C. $[185.5, 187.3]$

D. $[186.3, 188.4]$

E. None of the above

---

7. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(-2 - 6i)(-10 + 5i)$$

A. $a \in [50, 52]$ and $b \in [50, 51]$

B. $a \in [-15, -6]$ and $b \in [-72, -63]$

C. $a \in [-15, -6]$ and $b \in [67, 73]$

D. $a \in [19, 21]$ and $b \in [-37, -23]$

E. $a \in [50, 52]$ and $b \in [-51, -49]$

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8. Choose the **smallest** set of Complex numbers that the number below belongs to.

$$\sqrt{\frac{0}{7}} + \sqrt{3}i$$

A. Pure Imaginary

B. Not a Complex Number

C. Nonreal Complex

D. Rational

E. Irrational

---

9. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$\frac{-45 + 88i}{4 - 6i}$$

A. $a \in [-14, -13]$ and $b \in [81, 82.5]$

B. $a \in [5, 7]$ and $b \in [11.5, 13]$

C. $a \in [-708.5, -707.5]$ and $b \in [0.5, 2.5]$

D. $a \in [-11.5, -9.5]$ and $b \in [-15.5, -14]$

E. $a \in [-14, -13]$ and $b \in [0.5, 2.5]$

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10. Choose the **smallest** set of Complex numbers that the number below belongs to.

$$\sqrt{\frac{169}{0}} + \sqrt{221}i$$

A. Rational

B. Irrational

C. Not a Complex Number

D. Pure Imaginary

E. Nonreal Complex
